

REMARKS

Claims 1-33 are pending. By this Amendment, claims 1, 4, 7, 10, 23 and 26 are amended and new claims 32 and 33 are added.

Applicants appreciate and thank the Examiner for indicating that claims 16-17, 21-22 and 30-31 contain allowable subject matter. However, for reasons as discussed below, it is believed that all of the claims are allowable. Accordingly, reconsideration is respectfully requested in view of the above amendments and the following remarks.

The Office Action rejects claims 1-15, 18-20 and 23-29 under 35 U.S.C. §103(a) over Sakurai (U.S. Patent No. 6,201,825). The rejection is respectfully traversed.

Sakurai does not disclose or suggest an inorganic insulation film covering at least a side surface of the mesa structure and having an internal stress controlled by a source gas mixed with a dilution gas and equal to or less than 1.5×10^9 dyne/cm², as recited in independent claim 1; does not disclose or suggest an inorganic insulation film covering at least an upper surface and side surface of a mesa structure and having an internal stress controlled by a source gas mixed with a dilution gas and equal to or less than 1.5×10^9 dyne/cm², as recited in independent claim 7; and does not disclose or suggest forming an inorganic insulation film that covers at least a side surface of the mesa structure and an internal stress equal to or lower than 1.5×10^9 dyne/cm² with a source gas mixed with a dilution gas, as recited in independent claim 23.

The Office Action acknowledges on pages 2 and 3 that Sakurai does not disclose internal stress of the insulation film. However, the Office Action asserts that the general conditions of the claim are disclosed in the prior art, and thus discovering the optimal or workable ranges involve only routine skill in the art.

On the contrary, Sakurai does not even mention the problems associated with the internal stress of the insulation film. For example, page 2, lines 20-27 of the application

discloses that where a magnitude of internal stress greater than a certain level is exerted on the inorganic insulation film, the oxidation control film and/or the active region may be degraded or the strength thereof may be weakened in a short period of time.

Sakurai does not even mention the problems associated with internal stress. In other words, Sakurai does not intend to control internal stress of an inorganic insulation film at all, and do not disclose or suggest any means for controlling internal stress of the inorganic insulation film. Therefore, it follows that Sakurai does not disclose or suggest an internal stress controlled by a source gas mixed with a dilution gas, as recited in independent claim 1, and similarly recited in independent claims 7 and 23. Nowhere does Sakurai provide the motivation for one skilled in the art to use a source gas mixed with a dilution gas and equal to or less than 1.5×10^9 dyne/cm² to control an internal stress. Therefore, independent claims 1, 7 and 23 define patentable subject matter.

Regarding independent claims 13 and 18, for reasons as discussed above, Sakurai does not disclose, suggest or provide motivation to control internal stress of an inorganic insulation film covering at least a side surface of a mesa structure including a laminate of a first insulation film having tensile stress and a second insulation film having compressive stress, as recited in independent claim 13, and to control internal stress of an inorganic insulation film covering at least an upper surface and side surface of the mesa structure and having a laminate of a first insulation layer having tensile stress and a second insulation film having a compressive stress, as recited in independent claim 18.

There is simply no disclosure in Sakurai that teaches or suggests modifying the interlayer insulation film to control internal stress. Simply stated, one skilled in the art reviewing Sakurai would not be motivated to form an inorganic insulation film that includes a laminate of a first insulation film having tensile stress and a second insulation film having

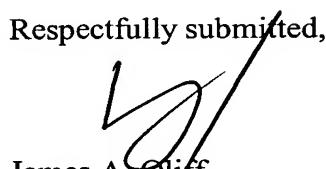
compressive stress to control internal stress. Therefore, independent claims 13 and 18 define patentable subject matter.

Claims 2-6, 8-12, 14-17, 19-22 and 24-33 depend from the respective independent claims, and therefore also define patentable subject matter as well as for the other features they recite. Therefore, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-33 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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